MINELCO®

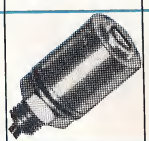
Micro-Miniature

TRIMMER

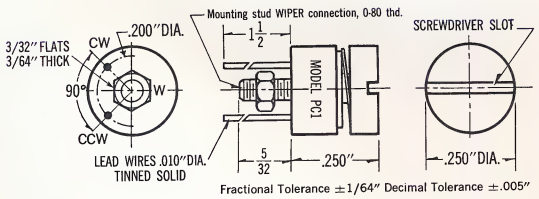
pots

MINELCO®
MINIATURE ELECTRONIC COMPONENTS CORP.
600 South Street Holbrook, Massachusetts
Tel.: 963-7717, Area 617 TWX: 617-963-7660

SPECIFICA ONS of MINELCO

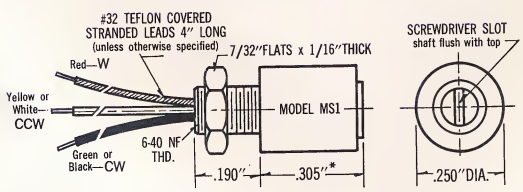
APPLICATIONS All models meet applic military specifications e where noted	Actual Size Photo		ELECTRICAL SPECIFICATIONS Standard Resistance (Ohms)	Resistance Tolerance	End Resistance	Resolution	Power Rating	Insulation Resistance
Potted circuits. Insulated-boar Becomes fixe		C1	20 50 100 200 500 1,000 2,000 5,000 10,000 Inter-mediate values available	±10% NOTE: ±5% available	1% or 2 ohms whichever is greater	0.25% to 1.5% depending on resistance value	0.25 watt to 85°C linearly derated to zero at 150°C	Not applicable
Potte c. Pri irc Be es f esistor a er potting.		PC2						
General-purpose Chassis, panel or boa d mountin Vertical adjustment.		MS1						Greater than 1,000 megohms at 500 volts d.c.
General-purpose. Pri ted-circuit mounting. Vertical adjustment.		MS2						
General-purpose. Chassis, board mounting. Horizontal adjustment.		MS4						
General-purpose. Printed-circuit mounting. Horizontal adjustment.		MS5						
General-purpose. Flush panel or chassis mounting. Vertical adjustment.		MS7						
High-power. Chassis, panel or board mounting. Vertical adjustment.		MS31	Above values plus 15K				¾ watt to 85°C zero at +150°C	
Special-purpose. Insulated-board, printed-circuit mounting. Built inside integral knob. Hearing-aid volume control.		HA1	100 to 10K				¼ watt to 85°C	1 megohm

Model No. PC1



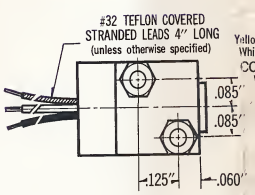
Fractional Tolerance ±1/64" Decimal Tolerance ±.005"

Model No. MS1



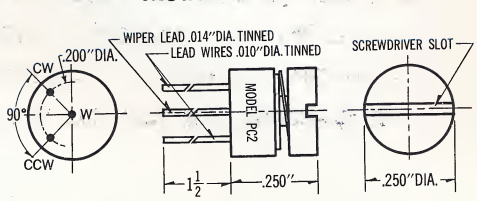
Fractional Tolerance ±1/64" Decimal Tolerance ±.005"

*.365" for Model HR1.



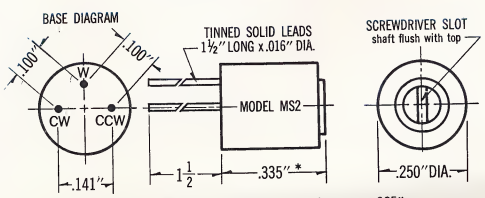
Fractional Tole

Model No. PC2



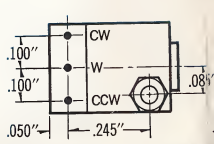
Fractional Tolerance ±1/64" Decimal Tolerance ±.005"

Model No. MS2



Fractional Tolerance ±1/64" Decimal Tolerance ±.005"

*.355" for Model HR2.



Fractional Tole

Micro-Miniature P

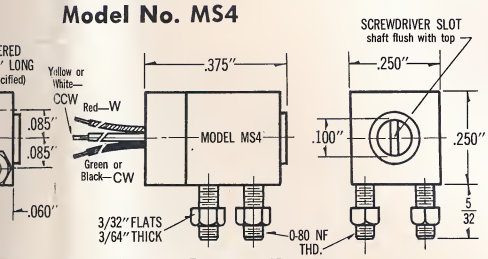
MECHANICAL SPECIFICATIONS (see dimer ing

Size	Weight	Case	Mounting	Shaft	Insulation	Wi
¼-inch diameter	0.02 ounces	None	#0–80 stud and 2 leads / 3 leads	None	Mylar	
¼-inch diameter	0.03 ounces	Anodized aluminum	#6–40 bushing / 3 leads			
¼-inch square	0.10 ounces	Nickel-plated brass	Two #0–80 studs / 3 leads and #0–80 stud	Stainless steel	Teflon and Mylar	
¼-inch diameter	0.03 ounces	Anodized aluminum	#10–32 bushing			
⅜-inch diameter	0.15 ounces					
¼-inch diameter	0.02 ounces	Enclosed in knob Anodized aluminum	#0–80 stud and 2 leads	None	Im-pregnated paper	

Wire-wound low-temperature coefficient wire (10PPM)

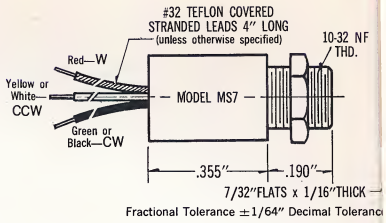
Preci met all

Model No. MS4



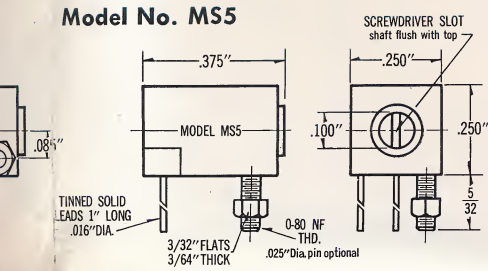
actional Tolerance ±1/64″ Decimal Tolerance ±.005″

Model No. MS7



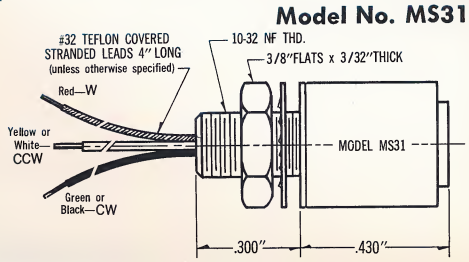
Fractional Tolerance ±1/64″ Decimal Tolerance

Model No. MS5



actional Tolerance ±1/64″ Decimal Tolerance ±.005″

Model No. MS31



Fractional Tolerance ±1/64″ Decimal Tolera

Micro-Miniature TRIMMER POTENTIOMETERS

MINELCO Micro-Miniature [illegible]MERS are extremely small, single-turn, wire-wound potentiometers — so tiny, in fact, that they are recognized as "the smallest potentiometers in the world."

These pots are available in a wide variety of mounting, connecting, and adjusting styles that satisfy practically any installation requirement. They meet all applicable MIL specifications and, because of their very small size, lightweight, sturdy construction, and high reliability, are being used — successfully — in airborne and space-exploration applications. MINELCO POTS are moderately priced. Samples and small lots can be shipped from stock; orders for large quantities are filled promptly.

Applications, performance-specifications, dimensions, and prices of standard MINELCO potentiometers are tabulated for your convenience in this bulletin. We'll be glad to send you an additional copy for use as a wall-chart in your engineering department.

REPRESENTED BY

T. M. GARRETTSON CO.
P. O. BOX 5 WILLISTON PARK, NEW YORK
TEL: PI 7-6610 TWX 516 248-7986
POMPTON LAKES, NEW JERSEY TEL: TE 5-3366
W. HENRIETTA, NEW YORK TEL: ID 6-4337

Micro-Miniature P[illegible]

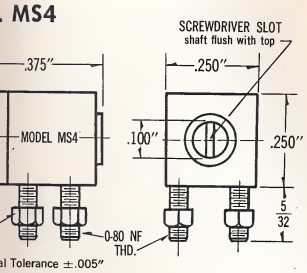
MECHANICAL SPECIFICATIONS (see dimen[illegible] ing

Weight	Case	Mounting	Shaft	Insulation	Wi[illegible]
0.02 ounces	None	#0–80 stud and 2 leads	None	Mylar	
		3 leads			
0.03 ounces	Anodized aluminum	#6–40 bushing			
		3 leads			
0.10 ounces	Nickel-plated brass	Two #0–80 studs	Stainless steel	Teflon and Mylar	
		3 leads and #0–80 stud			
0.03 ounces	Anodized aluminum	#10–32 bushing			
0.15 ounces					
0.02 ounces	Enclosed in knob Anodized aluminum	#0–80 stud and 2 leads	None	Im-pregnated paper	

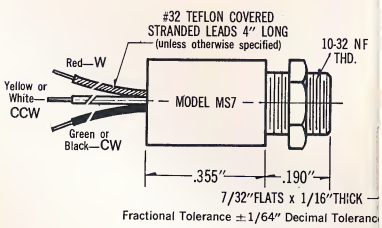
Wire-wound low-tempera-ture coefficient wire (10PPM)

Preci[illegible] met[illegible] all[illegible]

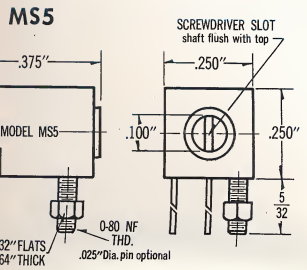
. MS4



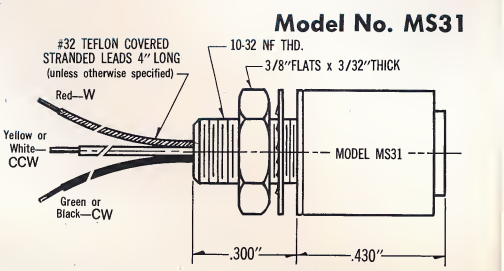
Model No. MS7



MS5



Model No. MS31



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MINELCO Micro-Miniature POTENTIOMETERS

Bulletin No. P-64

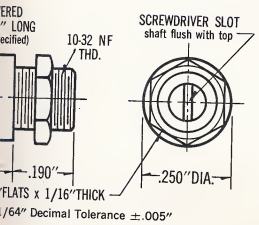
...TENTIOMETERS

ing below)

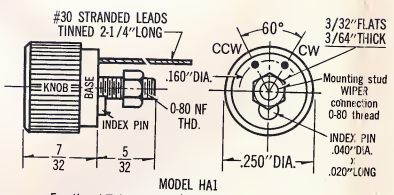
Wiper	Turns	Rotation	Operating Temp.	Humidity	Vibration	Shock
		270° electrical 360° mechanical		Unlimited when potted	Unlimited when potted	Unlimited when potted
ire-und w-pera-ure icient ire PM)	Precious-metal alloy	Single	270° electrical 300° mechanical	−55°C to +150°C	Greater than 100 megohms at 95% humidity	20G 30–2000 cps No change in setting No noise	50G in 3 planes
			0–85°C	—	—	—

ENVIRONMENTAL SPECIFICATIONS

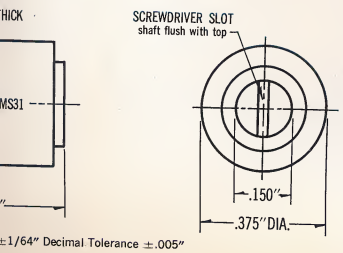
No. MS7



Model No. HA1



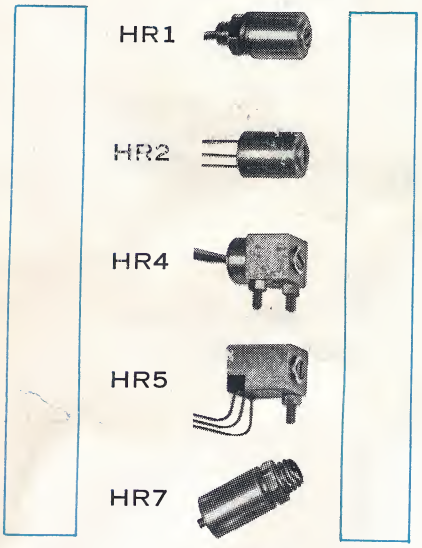
o. MS31



SPECIAL CONSTRUCTIONS

Modifications, based on the standard constructions shown here, can often be furnished to meet special or unusual requirements. For information, write or phone.

NEW HIGH-RELIABILITY *Micro-Miniature* TRIMMER POTENTIOMETERS



MINELCO now offers a new series of highly reliable micro-miniature potentiometers. These O-ring sealed, single-turn trimmer potentiometers are available in several styles for either vertical or horizontal adjustment and chassis, panel or printed-circuit mounting.

Ruggedized-construction Features

Housing: Nickel-Silver and Stainless Steel for maximum corrosion resistance and ultimate structural strength.

Positive Stop: New, all metal stop mechanism – virtually indestructible.

Epoxies Only: Only durable, proven epoxies are utilized. The standard lacquers and varnishes have been eliminated.

Absolute Inspection

100% inspection of all sub-assemblies and finished units, combined with the use of high-quality component parts and materials, assures a highly reliable product, significantly indicated by a production yield out of final inspection of nearly 100%.

Applicable Military Specifications

The following specifications are applied to the production and test procedures of the HR series potentiometers:
MIL-R-19, MIL-E-5272, MIL-STD-202, MIL-STD-105, MIL-STD-129, MIL-STD-130, MIL-STD-726, MIL-P-116, MIL-Q-9858. Write for Bulletin containing all electrical, mechanical and environmental specifications.

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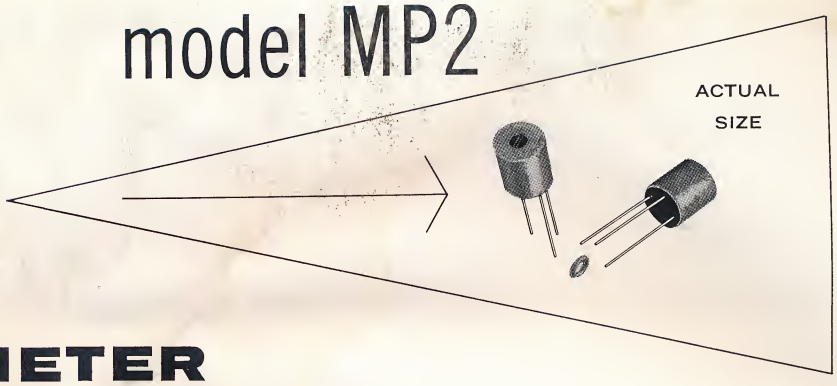
LOW-COST SEALED MINIATURE TRIMMER POTENTIOMETER

model MP2



The new MINELCO Model MP2 is a humidity-proof, wire-wound, miniature trimmer potentiometer that combines all high-quality features with low cost.

This O-ring-sealed model is available in standard resistances ranging from 20 ohms to 10,000 ohms, with a power rating of ¼ watt. The high-temperature silicon O-ring assures long-lasting, positive sealing. This single-turn unit rotates 360° mechanically and is designed for printed-circuit board mounting.

Because of their compactness, MINELCO miniature trimmer potentiometers lend themselves readily to high-density packaging.

LOW COST

Substantial savings are now possible because of increase in production on this model and through structural modifications made without sacrifice of quality. These savings are passed on to you.

ELECTRICAL SPECIFICATIONS

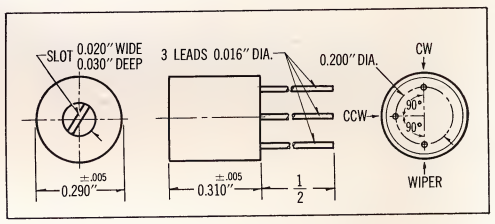
Standard resistance values	20, 50, 100, 200, 500, 1K, 2K, 5K, 10K ohms
Resistance tolerance	±10%
End resistance	Less than 1% or 2 ohms, whichever is greater
Resolution	0.2% to 1.5%, depending upon resistance value
Power rating	0.25 watts to 50°C; linearly derated to zero at 105°C
Insulation resistance	1,000 megohms at 500 volts d-c.

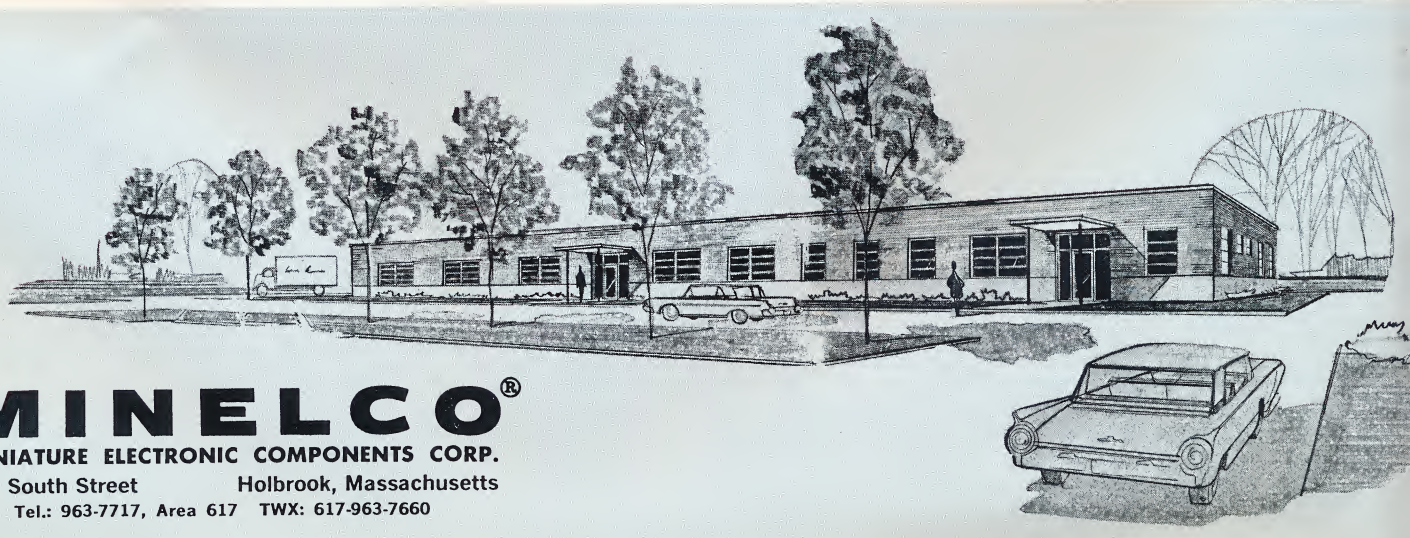
ENVIRONMENTAL SPECIFICATIONS

Operating temperature	−55°C to +105°C
Humidity	100 megohms minimum at 95% humidity
Vibration	20G, 30-2000 cps without change of setting or noise
Shock	50G

MECHANICAL SPECIFICATIONS

Size	0.290 diameter x 0.310 high
Weight	0.03 ounce
Case	High-temperature epoxy
Turns	Single — 360°
Mounting	Three 0.016" dia. leads ½" long
Resistance element	10-ppm wire
Wiper	Precious-metal alloy





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NEW

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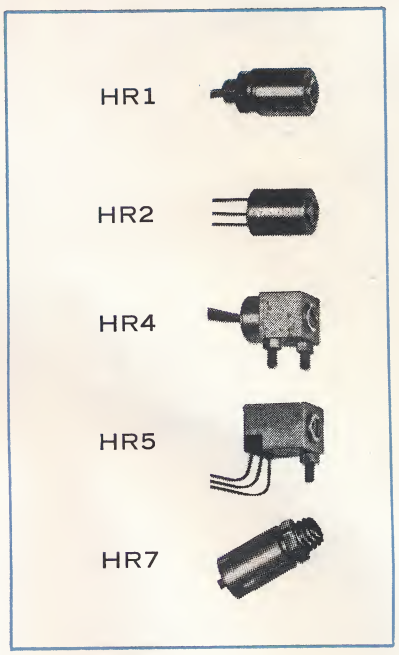

Ruggedized-construction Features

Housing: Nickel-Silver and Stainless Steel for maximum corrosion resistance and ultimate structural strength.

Positive Stop: New, all metal stop mechanism — virtually indestructible.

Epoxies Only: Only durable, proven epoxies are utilized. The standard lacquers and varnishes have been eliminated.

Absolute Inspection

100% inspection of all sub-assemblies and finished units, combined with the use of high-quality component parts and materials, assures a highly reliable product, significantly indicated by a production yield out of final inspection of nearly 100%.

Applicable Military Specifications

The following specifications are applied to the production and test procedures of the HR series potentiometers:

MIL-R-19, MIL-E-5272, MIL-R-27208, MIL-STD-202, MIL-STD-105, MIL-STD-129, MIL-STD-130, MIL-STD-726, MIL-P-116, MIL-Q-9858.

ELECTRICAL SPECIFICATIONS

Standard Resistances (ohms): 20; 50; 100; 200; 500; 1,000; 2,000; 5,000; 10,000; intermediate values available.
Resistance Tolerance: ±10% (±5% available)
End Resistance: 1% or 2 ohms, whichever is greater.
Resolution: 0.25% to 1.5%, depending on resistance value.
Power Rating: 0.25 watt to 85°C, linearly derated to zero at 150°C.
Insulation Resistance: greater than 1,000 megohms at 500 volts d.c.

MECHANICAL SPECIFICATIONS

Size: ¼-inch dia. or ¼-inch square.
Weight: 0.03 to 0.10 ounces.
Case: stainless steel or nickel-silver.
Shaft: stainless steel.
Insulation: Epoxy.
Resistance Element: Low-temperature coefficient wire (10PPM).
Wiper: Precious metal alloy.
Turns: Single.
Rotation: 270° electrical, 300° mechanical.

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature: −55°C to +150°C.
Humidity: Over 100 megohms at 95% humidity.
Vibration: 20 G, 30-2000 cps no change in setting, no noise.
Shock: 50 G in 3 planes.

Modifications, based on the standard constructions shown here, can often be furnished to meet special or unusual requirements. For information, write, phone, or TWX.

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